



# Bring Back the Flexibility of the Cloud with SDS and Open Source

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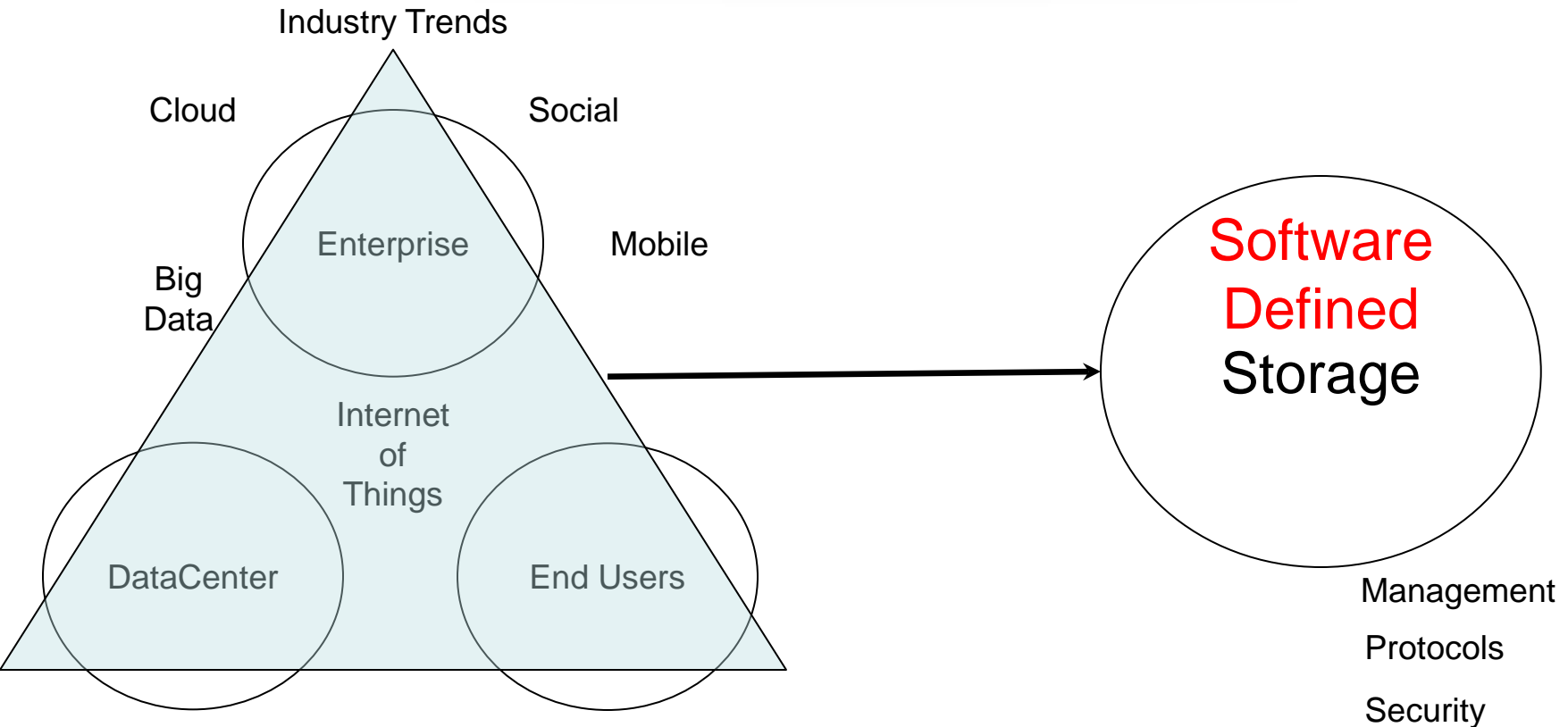
To even the playing field

# A FEW DEFINITIONS

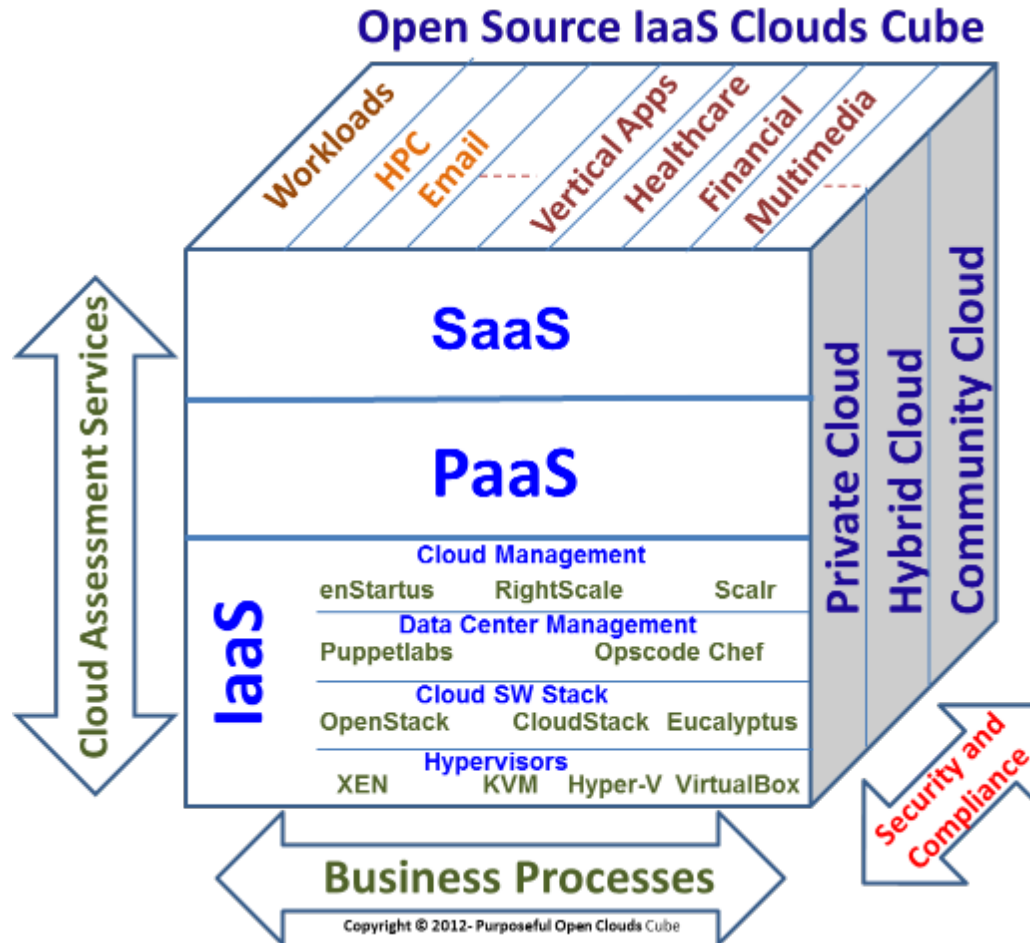
“open source refers to a computer program in which the source code is available to the general public for use and/or modification from its original design. Open-source code is typically created as a collaborative effort in which programmers improve upon the code and share the changes within the community. Open source sprouted in the technological community as a response to proprietary software owned by corporations.”

-[http://en.wikipedia.org/wiki/Open\\_source](http://en.wikipedia.org/wiki/Open_source)

# Software defined ....

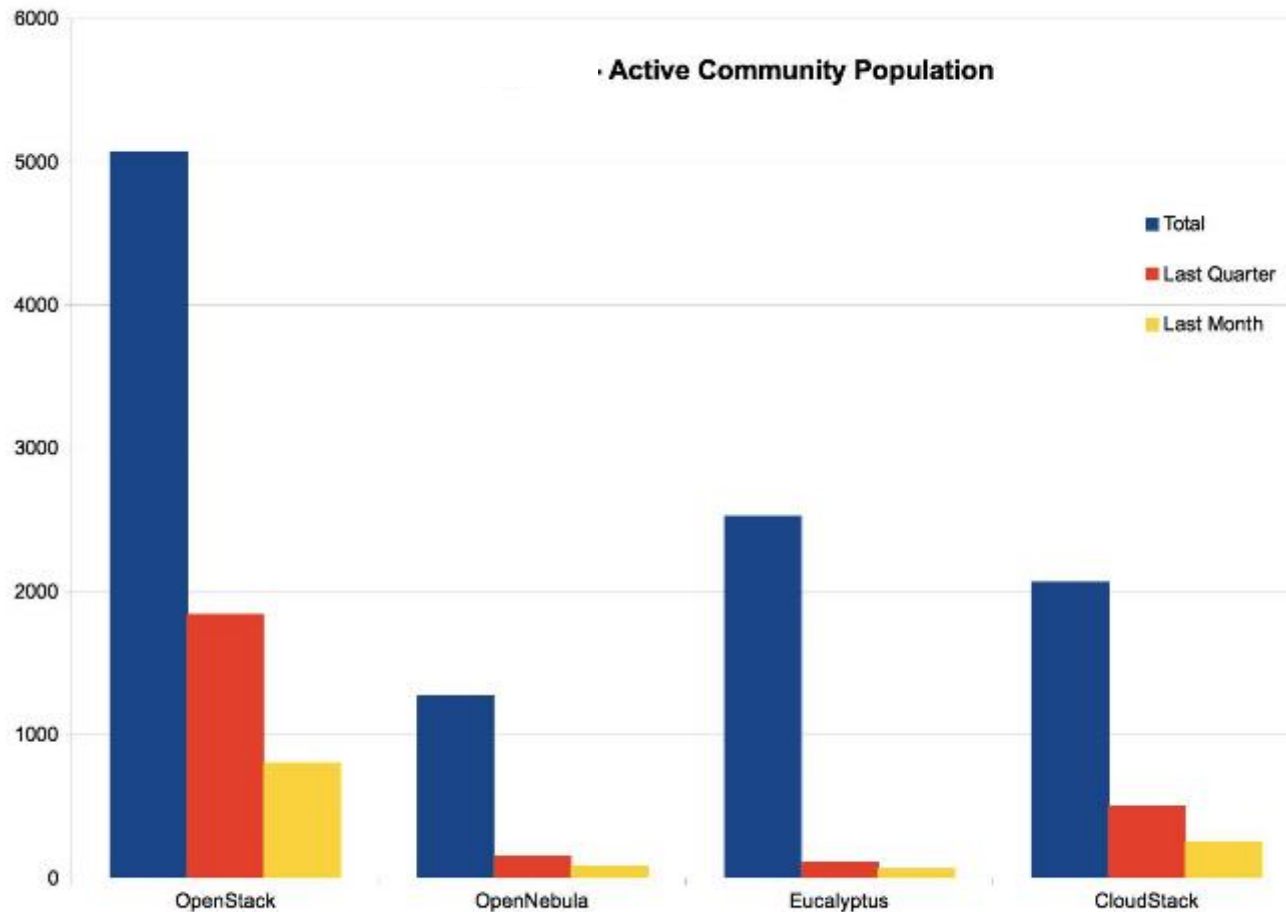


# Whats in a cloud?



# WHICH KIND OF CLOUD?

# Cloud Comparison



Source: <http://goo.gl/gwGxYf>





# Cloud automation

	Chef	Puppet
Approach	You write an install script in Ruby using all of the extra helper functions from Chef.	Apache; earlier versions are GPL
Language	A subset of Ruby	Mainly Puppet's custom JSON-like language, although a Ruby option is available beginning in version 2.6
License	Apache	Apache; earlier versions are GPL
Premium version	\$600 per month for 100 nodes	The Premium version of Puppet Enterprise is priced by the sales team.
Basic version	\$120 per month for 20 nodes or \$300 per month for 50 nodes	\$99 per node per year (annual term license) with the first 10 nodes free; discounts kick in for larger installations
Deployment	Private Chef runs on your machine; Hosted Chef (same price) runs in Opscode's cloud	Puppet Enterprise runs on your machine.

Source: <http://goo.gl/A8JoWs>

# What does it cost?

## ➤ Hardware

- ◆ Compute – 30%
- ◆ Switching – 10%
- ◆ Storage – 60%

## ➤ Software

- ◆ Open Source, COTS, Hosted

## ➤ On-Going OpEX

- ◆ Administration
- ◆ Power/Cooling
- ◆ Ingress/Egress

# Storage Options

- Software Defined Storage
- Software Based Storage
  - ◆ Traditional Arrays
  - ◆ All Flash Systems

# Software Based or Software Defined?

## Software Based



## Software Defined



- Software based is about technology
- All storage hardware vendors are software based
  - ◆ No hardware differentiation to speak of
  - ◆ EMC and NetApp are all x86 based
  - ◆ Nutanix is all SMC based
  - ◆ Pure Storage is Dell controller & Xyratex JBODs
  - ◆ Selling hardware, using software to extract high margins
- Software defined is about business model
  - ◆ Deliver software benefits without artificial margins
  - ◆ Leverage efficient economics of commercial off the shelf HW



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